

CLAIMS

1. A biomarker for detection of demyelination, characterized in that the biomarker is a polar head group of phosphoglyceride.
2. A biomarker according to claim 1, wherein said polar head group is phosphatidylethanolamine, phosphatidylcholine, phosphatidylserine and/or 5 phosphatidylinositol, or a part or derivate thereof.
3. A biomarker, comprising one or more metabolites or parts thereof chosen from the group consisting of N-acetylaspartate, inositol, choline, neopterin, and taurine, and combinations thereof.
4. Use of a biomarker according to any one of claims 1-3, for monitoring 10 demyelination.
5. Use of a biomarker according to any one of claims 1-3, for diagnosis and prognosis of multiple sclerosis.
6. A method for diagnosis and prognosis of demyelination in a mammal, comprising measuring a biomarker according to any one of 15 claims 1-3 in a body fluid of an individual of the respective mammal.
7. A method according to claim 6, wherein said biomarker is measured by means of proton nuclear magnetic resonance spectroscopic analysis of metabolites in a body fluid and wherein said body fluid is urine.
8. A difference profile for the detection of demyelination in a mammal, comprising a plurality of spectral line positions and optionally 20 corresponding signal intensities of NMR spectral lines, which express the normalized difference between one or more NMR spectra of metabolites in a body fluid of one or more healthy individuals of said mammal, and one or more corresponding NMR spectra of metabolites in a corresponding body 25 fluid of one or more individuals of said mammal in which demyelination has been diagnosed.

9. A difference profile according to claim 8, wherein said mammal has been chosen from the group consisting of humans, dogs and guinea pigs.
10. A difference profile according to claim 8 or 9, wherein said body fluid is urine.
- 5 11. A difference profile according to claim 10, comprising the spectral lines and values corresponding thereto according to Table 1.
12. A method for the detection of demyelination in a mammal, comprising the steps of providing an NMR spectrum of metabolites in a body fluid of an individual of said mammal in which demyelination is suspected and comparing said NMR spectrum with a difference profile according to 10 any one of claims 8-11, determined for a corresponding body fluid.
13. A method according to claim 12, wherein said mammal has been chosen from the group consisting of humans, dogs and guinea pigs.
14. A method according to claim 12 or 13, wherein said body fluid is 15 urine.
15. A method for manufacturing a difference profile for the detection of demyelination in a mammal, comprising the steps of: a) providing a first set of positions and corresponding signal intensities of spectral lines in a NMR spectrum recorded from metabolites in a body fluid of one or more healthy individuals of said mammal; b) providing a second set of positions and corresponding signal intensities of spectral lines in a NMR spectrum recorded from metabolites in a corresponding body fluid of one or more individuals of said mammal in which demyelination has been diagnosed; and c) detecting the differences between the normalized values of said first and second set, for obtaining said difference profile.
- 20 16. A method according to claim 15, wherein the determination of said normalized values comprises the use of the method according to WO 02/13228.
17. A method for identifying a biomarker for demyelination, comprising 25 manufacturing a difference profile according to any one of claims 8-11 and

identifying a metabolite which is characterized by one or more defined spectral lines in said difference profile.